New media, social networking websites, and disruptive technology
How to consider pros and cons of resident and program use

Dr. Patricia Hicks, Program Director, Children’s Hospital of Philadelphia
Dr. Jerry Rushton, Pediatric Residency Director, Indiana University
Dr. Glenn Stryjewski, Associate Program Director,
Thomas Jefferson University/ DuPont Hospital for Children

Sept. 11th, 2009
DISCLOSURES

- No conflicts to disclose

- Note: Our talk will mention some specific products (websites, new media, etc.), but this is not an endorsement of individual products by the speakers or APPD.
There are two kinds of fools:
One says, "This is old therefore it is good." The other one says, "This is new therefore it is better."
- William Inge, US Playwright
GOALS

- To introduce GME educators and administrators to new technologies for younger learners
- To present examples of creative potential uses for medical education
- To consider implementation for admin. uses
- To present data on uses for applicant selection
- To discuss professionalism issues, pros/cons
OVERVIEW

- Introduction
- Web-based learning curricula and administration (Jerry Rushton)
- Use of Technology to Enhance Medical Education and Patient Care (Patty Hicks)
- Social Networking as an Applicant Screening Tool (Glenn Stryjewski)
- Open discussion
ADDITIONAL TOPICS

- We will not address these topics in detail
- However, all are important, poss. future topics
  - Electronic evaluation systems
  - Simulation technology
  - Electronic med. records/clinical communications
  - EBM and information searches
  - Website development
  - CME and ABP preparation with online tools
  - Duty hours tracking
Web-based learning curricula and administration management systems

Jerry Rushton, MD MPH
Program Director, Indiana University
BACKGROUND - Why use tech?

- Engage new generation
- Continue their grade school, college
- Meet individual learning styles
- Document competencies
- Create portfolios, foster reflection
- Facilitate ILPs
E-Learning in Primary Schools

Zionsville Community Schools

Zionsville Schools ANGEL Learning

ANGEL® LEARNING MANAGEMENT SUITE

Log On
Username
Password
I forgot my password

Public Announcement
View: Past Present: AI
There are no new announ

Top Stories
There are no top stories

times sentinel

School board passes 1:1 laptop program
By Eric Smith/Times Sentinel writer

Beginning this fall, every sixth and seventh-grade student in Zionsville will have another powerful textbook. The Zionsville Community Schools Board of Trustees voted 3-2 to authorize the expansion of the 1:1 laptop computer initiative at both Zionsville Middle School and Zionsville West Middle School on Monday night, June 8.
BACKGROUND LITERATURE

- Key Findings on web-based education modules
  - Mixed/equivalent outcomes on knowledge
  - High learner satisfaction
  - More efficient (time, money, etc.)

- Select Citations
  - Ruiz JG. The Impact of E-Learning in Medical Education. Acad Med. 2006
  - Johnson CE. Learning management systems: technology to measure the medical knowledge competency of the ACGME. Medical Education, 2004.
  - Cook DA. Adapting web-based instruction to residents' knowledge improves learning efficiency: a randomized controlled trial. J Gen Intern Med. 2008
Indiana experience- ANGEL


- ANGEL: A New Global Environment for Learning

Overview video http://www.youtube.com/watch?v=uueFhuzm1Tc
GENERAL USES

- Create folder system
- Allow different user levels
  - Administrator
  - Course director
  - Advisor
  - Teacher/evaluator
  - Resident
- Various formats
  - Readings/resources
  - Quizzes/interactive modules
  - Surveys/group communications
  - Document upload
  - Interactive shared documents
CONSIDER USES IN RESIDENCY- TEACHING

- Disseminate rotation goals, resources
- Collect online lectures, materials
- Link to other institutions web-based modules
- Develop quizzes, modules for indep. learning
- Create portfolios, competency doc. files
- Document products/research for faculty P&T
CONSIDER USES IN RESIDENCY- ADMINISTRATION

- Integrate with admin. data (ERAS, etc.)
- Use for orientation and credentialing modules
- Upload ILPs, create shared documents
- Use for advisor meetings, semi-annuals, etc.
- Create portfolios, competency doc. files
- RRC site visit, accreditation support
SYSTEMS / OPTIONS

- ANGEL
- E-value
- MedHub
- Moodle
- MyEvals
- New Innovations
- Pedialink
- Others
CHOOSING A SYSTEM

- Cost
- Balance uses/needs
- End-user friendly
- Data reporting/summaries
- Need for tech support
PROS/CONS

- Investment up front in content development
- Occasional glitches, need for IT support, etc.
- How dynamic is the system, who controls data?
- How data export, talk to other systems

- Ability to document RRC reqs.
- Create portfolios, foster reflection
- Facilitate ILPs, individual data
- Efficient learning supplement
SUMMARY

- Systems can help engage learners; but this is only a supplement to excellent trad. teaching
- Efficient for timely independent learning
- Unclear outcomes advantage on knowledge, but increases interest/engagement in ed. modules
- Many systems; relative low cost to assist you
- Consider partnering with others on campus/GME
Use of Technology to Enhance Medical Education and Patient Care

Patricia Hicks, MD
Program Director, CHOP
Opportunities to Enhance Education using Technology

- Podcasts
- Use of PDAs in resident education
- Multiple other formats
Podcast potential uses

- Convert lectures, conferences
- Specific rotation content
- Independent learning
- Faculty grand rounds
Podcasts and Variations- How To

- Converting PPT to QuickTime movie → exporting to video podcast using QT Pro
  - Audio NOT compressed; NOT easily edited
  - …Too big for easy access

- Saving PPT slides to separate JPEG images
  - Import slides (JPEGs) into GarageBand’s Podcast Track or iMovie’s video track and used as artwork for podcast
  - Can be difficult to work with the sequence of PPT-001img.jpg, etc.

- Open PPT file in Keynote and narrate the show in continuous stream as you click through the show.
  - Export as a podcast
  - Produces video podcasts; NO editing permitted
Podcasts and Variations- Publishing

- Open PPT file in Keynote
- Drag slides into GarageBand storyboard
- Narrate or insert audio to match slides
- Publish - M4A file format best
- *No audio editing capacity in Keynote
- GarageBand is the best software for podcasts
- Use Keynote to view images of all ppt slides
Podcast Producing on PC

- **Propaganda**
- **ePodcast Creator 2.0.49**
- **Audacity**
  - relatively user-friendly audio editing software
  - no video capability is offered
Publishing your Podcast

- Publish in MP4 format for computer downloads, Apple TV, iPod or iPhone *
- Convert to WMV or MOV video to let people watch it online or download to a local device *
- Wondershare PPT

*Blackberry and other PDAs have interfaces now for podcasts
Medical Education and the Personal Digital Assistant (PDA)

- How is the PDA used in medical education?
- What are the perceived benefits/drawbacks of PDA?
- How does the practicing physician use the PDA?
- Considerations for future of PDA use in medical ed?
How is a PDA used in medical ed?

- Tracking
  - Medical student clinical encounters
  - Resident procedures and patient case logs
www.ACGME.org procedure and patient case logs
How is a PDA used in medical education?

- Tracking
  - Medical student clinical encounters
  - Resident procedures and patient case logs
  - Duty hour monitoring and recording of perception of education and service experienced
UTSW Pediatric Resident Duty Hour Monitoring tool

- Online recording of rotation and individual specific activities:
  - Total hours, rounding hours, teaching encounter time (and type)
  - Patient volume and type
  - Perception of service vs. education, quality of day, quality of education, rest vs. service
  - Comments on areas to improve
### Survey Form

**Date Survey Completed:** 05/19/2005

**AM shift:** -Select-

**PM shift:** -Select-

**Time Arrived:** --Select--

**Rotation:** --Select--

**Attending Physician:** --Select--

#### Hours Spent Doing Required Work:
- Of the total hours worked, how much time was spent on rounds?
- Of the total hours worked, how much time was spent in Continuity Clinic?

#### Total Number of Patients Admit/Accepted by Me this Shift:

#### Total Patients on My Service this Shift:

#### Total Number of Patients Cross Covered:

#### Total Number of Patients Discharged:

#### Total number of patients seen in outpatient setting (non-CC):

#### Select hours spent on learning activities:

- Didactic teaching sessions:
- Interactive teaching sessions:
- Self-directed learning hours:

**How would you rank the balance between educational and clinical care experiences during this period?**

**Balance of service vs. education** - The overall balance of my time was:

<table>
<thead>
<tr>
<th>Service</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Balance of edu/serv vs. rest** - The overall balance of my time was:

<table>
<thead>
<tr>
<th>Edu/Serv</th>
<th>Rest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Overall Quality of Day**

<table>
<thead>
<tr>
<th>Poor</th>
<th>Outstanding</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Time Available for Learning**

<table>
<thead>
<tr>
<th>Insufficient</th>
<th>Plenty</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Time Available for Clinical Care**

<table>
<thead>
<tr>
<th>Insufficient</th>
<th>Plenty</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Please discuss your impression of your workday below. Responses are limited to 250 characters.

What areas of improvement would you like implemented in your time management or educational process?
How is a PDA used in medical education?

- **Tracking**
  - Medical student clinical encounters
  - Resident procedures and patient case logs
  - Duty hour monitoring and recording of perception of education and service experienced

- **Reference**
  - Pharmaceutical information
  - Guidelines/pathways

- **Decision support; patient care**
  - Many e.g. (see www.patientkeeper.com)
What are the perceived benefits of PDA use?

- Reduced time spent finding resource data
- Organization tool (better than paper calendar/phone book)

Survey Assessment of PDA Use Among Trainees and Attending Physicians

Figure 2. Frequent PDA use by application. Black bars indicate trainees. Gray bars indicate attending physicians.
What is the utility of PDAs in medical education?

- Do PDAs help some learning styles > others?
- Are there ways through storage and linkage of PDA information that we can facilitate development of residents’ higher processing?
- Do handhelds interfere with problem-solving or critical thinking?
- Is this a necessary part of safe/efficient practice now (and thus an educ. imperative in 2009)?
What are the difficulties that may arise with the use of PDAs in medical education?

- Logistics of maintaining devices and network/server
- Wireless network dependability
- Advancing/changing development of software and hardware – no static phase to master/study/develop curriculum
What are the barriers that may arise with the use of PDAs in medical education?

- **Security**
  - Personal data available to anyone if device is lost
  - Encryption possible for in-hospital use
    - Residents and medical students savvy enough to change wireless settings in a coffeebar chat room
  - Storage of patient specific information likely to be convenient → used inappropriately

- **Cost**
  - UTSW example, others up to $10,000s+

Thompson BW HIPAA guidelines for using PDAs, *Nursing: Infobytes* 2005(25)11:
SUMMARY

- You can do a podcast; see reference list
- PDAs are another tool for tracking, education, and administration
- Pros/Cons exist with some barriers; costs
Social Networking as an Applicant Screening Tool

Dr. Glenn Stryjewski, Associate Program Director, Thomas Jefferson Univ/ DuPont Hospital for Children
Raise your hand if you have used the internet in any way to view potential residency candidates.
Social Media in the Hiring Process

- According to careerbuilder.com
  - 22% of employers use social networking searches of potential hires
  - Up from 10% in 2006
  - Additional 9% plan on using in the future
  - 34% found info that led to a candidates rejection
Internet/Social Networking Sites

- Google
- Myspace
- Facebook
- Tweeter
- Linkedin
- Flickr
- Digg
- Imeem
- Pandora
- Hi5
- Youtube
- blogging
Write something...

Corinna O'Connell: fair to midland - but, re-adjusting to the "reality" of what this all means for me...ie, not a whole lotta fun this summer!
Fri 1:29am · Comment · Like · See Wall-to-Wall

Arley Kemmerer: In this photo: Kristin Gavin
Little bit of this, little bit of that...
April 17 at 7:42pm · View album
Social Media in the Hiring Process

- What can we easily learn about potential candidates/hires?
  - Sex
  - Age
  - Ethnicity
  - Marital status
  - Religious/political affiliations
  - Family members
Social Media in the Hiring Process

- Behaviors
- Handicaps
- Other group affiliations (ie “Friends of APPD”) 
- Sexual orientation (implied or stated)
Social Networking On The Rise!

- Now part of routine culture of young people
- Facebook
  - 150 million active users
  - 60% - 70% of all medical students
  - 10% - 20% of all residents
  - Privacy function use seems to decrease for younger users

Effect of Myspace® Website Content on Selection Committee Evaluation of Prospective Pediatric Residents
Methods

- Social Networking Website Search
  - Facebook © (n=89)
  - MySpace © (n=180)

- MySpace content printed and de-identified

- Content distributed to entire selection committee

- Selection committee members scored MySpace content (Likert 1-10)
Methods- Survey questions

- Based on the information available on these webpage(s), is this someone you would choose to have as a pediatrics resident in our program?

- Would you recommend that this medical student remove this profile from the website prior to applying for residency programs?
Results

- Facebook © 49.4% (44/89)
- MySpace © 12.2% (22/180)
  - 9.0% (8/89) had both
Results

Average Scores: Myspace / Actual

- Actual Interviewers: p=0.001
  - Myspace: 4.93
  - Actual: 6.81

- Entire Committee: p=0.94
  - Myspace: 5.2
  - Actual: 5.21
Results

- Is this someone you would choose to have as a pediatrics resident in our program? **NO:**
  - More than half of the committee: 3/22 (13.6%)
  - At least one committee member: 6/22 (27.3%)

- Would you recommend that this medical student remove this profile from the website prior to applying for residency programs? **YES:**
  - 11/22 (50%)

- 25% of candidates that we did not rank had public website content
Does the online persona reflect accurately the quality of the candidate?
Social Networking as an Assessment of Professionalism
Raise your hand if you have used the internet in any way to view your current residents.
Examples of groups identified among some medical students/residents:

- PIMP’s – Party of Important Male Physicians
- Physicians looking for trophy wives in training
Examples of foul language/racially charged comments

- keep your %$#@ hand down in lecture and shut up
- I should have gone to a blacker...school
Thompson et al…

- Random subset of profiles reviewed in depth
  - 70% had photos with alcohol
  - 50% had photos implying excessive drinking
  - 30% had overt unprofessional content
    - Explicit sexuality
    - Foul language
    - Patient-privacy violations
Consider the following:

- Patients contacting you via Facebook
- Pictures of you smoking at a holiday party
- You’re friends with a nurse who is a friend of your patients mom
- Your resident calls out sick from his elective and “Facebooks” that he is at a sports event
- You know your resident is starting a 24 hour shift but “Facebooks” that she is at a party 5 hours before the start of her shift
SUMMARY

- Your residents, fellows, (and some faculty) are using social networking sites.
- Many interesting potential uses to communicate and connect.
- Consider review for applicant screening.
- Consider professionalism issues and how to set expectations that extend to web use.
CONCLUSIONS

- There are several new, innovative methods to use in GME teaching and administration.
- New technology has many potential positives to engage learners in new ways.
- Technology has many logistical issues and pros/cons to consider.
- Consider how to use social networking sites and frame in professionalism.
- Use resources to explore further.
DISCUSSION

- Share information (here, regions, listserv)
- Join APPD Learning Technology Task force
- APPD Share Warehouse
- Also see resource list posted online in our talk posting www.appd.org
RESOURCES AND ADDL. INFO

- Online curricular management
  - angellearning.com
  - e-value.net
  - medhub.com
  - moodle.com
  - myevals.com
  - new-innov.com/pub
  - pedialink.org
RESOURCES AND ADDL. INFO

- **Podcasting sites**
  - www.apple.com/support/garageband/
  - www.apple.com/iwork/keynote/
  - www.makepropaganda.com/products.html
  - http://epodcast-creator.en.softonic.com/download

- **PDAs Lit.**
  - McLeod TG *J Am Med Informatics Assoc* 2003(10) 605
  - Thompson BW HIPAA guidelines for using PDAs, *Nursing: Infobytes* 2005
Personal Digital Assistant Applications for the Healthcare Provider

Popular websites for PDA software:

http://www.patientkeeper.com
http://www2.epocrates.com/index.html
http://www.isilo.com
http://www.lexi.com/web/news.jsp?id=100065
http://www.sanfordguide.com
http://www.collectivemed.com/jump/pmccp.shtml
http://www.skyscape.com/index/home.aspx

RESOURCES AND ADDL. INFO

Social networking sites
- www.facebook.com
- www.twitter.com
- www.myspace.com

Associated articles
- Hawn C. Take Two Aspirin And Tweet Me In The Morning: How Twitter, Facebook, And Other Social Media Are Reshaping Health Care. Health Affairs, 2009.